Japan launching 'space junk' collector (Update)

December 9 2016

Japan's unmanned cargo spacecraft, "Kounotori" is to blast off from the southern island of Tanegashima around 10:30 pm local time attached to an H-IIB rocket

Japan launched a cargo ship Friday bound for the International Space Station, carrying a 'space junk' collector that was made with the help of a fishnet company.

The vessel, dubbed "Kounotori" (stork in Japanese), blasted off from the

southern island of Tanegashima just before 10:27 pm local time (1327 GMT) attached to an H-IIB rocket.

Scientists at the Japan Aerospace Exploration Agency (JAXA) are experimenting with a tether to pull junk out of orbit around Earth, clearing up tonnes of space clutter including cast-off equipment from old satellites and pieces of rocket.

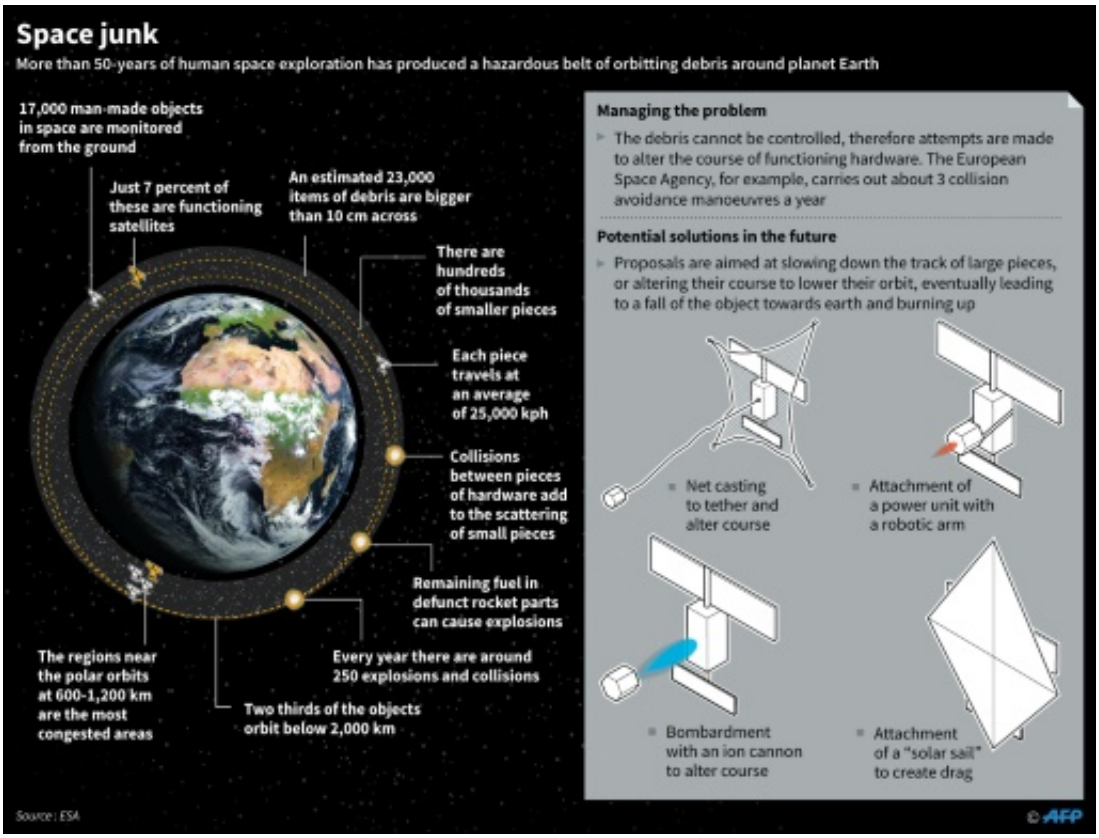
The launch was successful as "the satellite was removed from the rocket" and put into the planned orbit about 15 minutes after the liftoff, JAXA spokesman Nobuyoshi Fujimoto on Tanegashima told AFP.

More than 50 years of human space exploration since the Soviet-launched Sputnik satellite in 1957 has produced this hazardous belt of orbiting debris.

There are estimated to be more than 100 million pieces in orbit, posing a growing threat to future space exploration, scientists say.

Researchers are using a so-called electrodynamic tether made from thin wires of stainless steel and aluminium.

The idea is that one end of the strip will be attached to debris which can damage working equipment—there are hundreds of collisions every year.



Japan's unmanned cargo spacecraft, "Kounotori" is to blast off from the southern island of Tanegashima around 10:30 pm local time attached to an H-IIB rocket

The electricity generated by the tether as it swings through the Earth's magnetic field is expected to have a slowing effect on the space junk, which should, scientists say, pull it into a lower and lower orbit.

Eventually the detritus will enter the Earth's atmosphere, burning up harmlessly long before it has a chance to crash to the planet's surface.

JAXA worked on the project with Japanese fishnet manufacturer Nitto Seimo to develop the cord, which has been about 10 years in the making.

"The tether uses our fishnet plaiting technology, but it was really tough

to intertwine the very thin materials," company engineer Katsuya Suzuki told AFP.

"The length of the tether this time is 700 metre (2,300 feet), but eventually it's going to need to be 5,000 to 10,000 metre-long to slow down the targeted space junk," he added.

Previous experiments using a tether have been done in recent years.

Another spokesman for the space agency has said it hopes to put the junk collection system into more regular use by the middle of the next decade.

"If we are successful in this trial, the next step will be another test attaching one tip of the tether to a targeted object," he added.

The cargo ship launched Friday is also carrying other materials for the ISS including batteries and drinking water for the astronauts living there.

Citation: Japan launching 'space junk' collector (Update) (2016, December 9) retrieved 10 April 2024 from https://phys.org/news/2016-12-japan-space-junk-collector.html